



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/764,042	01/16/2001	David H. Davies		5686

7590

12/06/2002

Steve Volk  
Chairman of the Board  
DataPlay, Inc.  
2560 55th Street  
Boulder, CO 80301-5706

EXAMINER

ANGEBRANNDT, MARTIN J

ART UNIT

PAPER NUMBER

1756

DATE MAILED: 12/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

09/764,042

Applicant(s)

DAVIES ET AL.

Examiner

Martin J Angebranndt

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 1756

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 28 <sup>is</sup> ~~is~~ rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. WT  
12/4/02

Claim 28 lacks antecedent basis for the fourth metal layer (basis for that is found in claim 12.

Claims 55-57 depends upon a claims which has no reading/writing steps.

- 3 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

- 4 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1756

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5        Claims 1-58,9,18,20,27,30,35-42,44 and 46-48 are rejected under 35 U.S.C. 102(e) as being fully anticipated by Ueno et al. '457.

See figure 1 and discussion in column 3/line 29 through column 4/line 40, where the substrate is polycarbonate, the second reflective layer (10) is Al,Au, or Ag and the semitransparent film is a silver alloy. The extension of these teachings to phase change optical recording media is disclosed (14/24-30). The use of 400 nm and 650 nm wavelengths is disclosed. (13/64-14/4).

6        Claims 1-10,12-30,35,38-42,44,45 and 48-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al. '609, in view of **either of** Fujimori et al. '547, Holster et al. '553, Kobayashi et al. '868 or Saito et al. '454.

Takeda et al. '609 teaches with respect to figures 13, a central substrate with information embossed on both sides, the formation of reflective films (46), a light curing resin which is cured in contact with the reflective layers and other mold surfaces, the deposition of semitransparent films (45) and the coating of these films with a protective layer. The semireflective layer is silicon nitride. The use of this with other recording layer types is disclosed. (7/9-15) The thickness of the internal substrate is 0.3 mm or 0.8 mm. (4/4-9 and 5/60-61). The protective and intermediate layers are 0.1 mm thick and UV curable. (5/24-34 and 4/40-50). The use of depth of focus adjustment is disclosed with respect to figure 13 and 18. The use of evaporative deposition and sputtering is disclosed. (5/11-17)

Art Unit: 1756

Fujimori et al. '547 teaches in multi-layered optical recording media, the use of thin 10-20 nm thicknesses of Au, Ag, Ni, Al or the like or dielectric films of silicon carbide, silicon nitride or the like for semitransmissive films (4) (5/50-56). The first reflective layers have a photocurable protective layer is 5-10 microns in thickness and a photocurable adhesive of 30-60 microns. (6/4-26).

Holster et al. '553 teaches the use of dielectric films or thin 10-20 nm thicknesses of Au, Ag, Ni, Al or the like for semitransmissive films (4) (7/56-68) teaches a protective layer between the reflective layer and the spacer.

Kobayashi et al. '868 teach that dielectrics such as silicon nitride and thin metal layers may serve as the semi-transparent layers (11/23-29).

Saito et al. '454 teaches the use of gold or silicon nitride as the material for the semi-transparent layer (18) (7/51-58)

It would have been obvious to one skilled in the art to modify the invention of Takeda et al. '609 by replacing the semitransparent silicon nitride dielectric film with a metal or alloy film based upon the teachings of equivalence by **either of** Fujimori et al. '547, Holster et al. '553, Kobayashi et al. '868 or Saito et al. '454.

7 Claims 1-10,12-30,35,38-45 and 48-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al. '609, in view of Nishiuchi et al. '619.

Nishiuchi et al. '619 teach that the UV curable intermediate layer may be 40 microns thick (13/29-31). The use of phase change recording materials in place of one of the reflective layer is disclosed, including direction to InSb materials. (14/36-61) The read only materials may be dielectrics such as silicon nitride and metals such as gold, aluminum or copper. (13/65-14/6).

Art Unit: 1756

Examples 4 and 5 (figures 18 and 19) teach the phase change layer as the further of the recording layers and utilize them. Examples 2+ use 680 nm lasers light.

It would have been obvious to one skilled in the art to modify the invention of Takeda et al. '609 by replacing the semitransparent silicon nitride dielectric film with a metal or alloy film based upon the teachings of equivalence by Nishiuchi et al. '619. Further it would have been obvious to one skilled in the art to include a phase change recording layer adjacent to the fully reflective layer to allow the medium to record as well as replay information.

8 Claims 1-30,35,38-45 and 48-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al. '609, in view of Nishiuchi et al. '619 and Pan et al. '680.

Pan et al. '680 teaches that SbInSn have stable state, resistance to corrosion , fast crystallization rates and are able to be recorded at high densities. (3/16-57).

In addition to the basis provided above, the examiner holds that it would have been obvious to modify the invention of Takeda et al. '609 combined with Nishiuchi et al. '619 to take advantage of the properties of the InSbSn compositions of Pan et al. '680 with a reasonable expectation of realizing these.

9 Claims 1-10,12-32,35,38-42,44,45 and 48-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al. '609, in view of **either of** Fujimori et al. '547, Holster et al. '553, Kobayashi et al. '868 or Saito et al. '454, further in view of **either of** Nakahara et al. '278, Sugita et al. '494 or Allebest et al. '515.

Nakahara et al. '278 teach optical recording media 40 mm in diameter (8/14-16).

Sugita et al. '494 teach optical recording media 1.9 inches (48.2 mm) in diameter (11/11-14).

Allebest et al. '515 teach optical recording media with 30 mm in diameter substrates  
(3/65)

It would have been obvious to one skilled in the art to modify the invention of Takeda et al. '609 combined with **either of** Fujimori et al. '547, Holster et al. '553, Kobayashi et al. '868 or Saito et al. '454 by using different disk substrates known in the art, such as those disclosed by **either of** Nakahara et al. '278, Sugita et al. '494 or Allebest et al. '515 to allow these to be played on these type of players, which are assumably smaller.

10      Claims 1-32,35,38-45 and 48-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al. '609, in view of Nishiuchi et al. '619 and Pan et al. '680, further in view of **either of** Nakahara et al. '278, Sugita et al. '494 or Allebest et al. '515.

It would have been obvious to one skilled in the art to modify the invention of Takeda et al. '609 combined with Nishiuchi et al. '619 and Pan et al. '680 by using different disk substrates known in the art, such as those disclosed by **either of** Nakahara et al. '278, Sugita et al. '494 or Allebest et al. '515 to allow these to be played on these type of players, which are assumably smaller.

11      Claims 1-35,38-45 and 48-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al. '609, in view of Nishiuchi et al. '619 and Pan et al. '680, further in view of **either of** Nakahara et al. '278, Sugita et al. '494 or Allebest et al. '515 combined with Gotoh et al. '736 and Mumford et al. WO 99/45539.

Gotoh et al. '736 teaches the provision of a coding area in a PCA sector to allow use of the ROM areas of the CD (31/54-32/27).

Art Unit: 1756

Mumford et al. WO 99/45539 teaches the provision of a coding area in a write once band or sector to allow use of the ROM areas of the CD (page 3/second paragraph).

It would have been obvious to one skilled in the art to modify the invention of Takeda et al. '609 combined with Nishiuchi et al. '619, Pan et al. '680 and **either of** Nakahara et al. '278, Sugita et al. '494 or Allebest et al. '515 by encoding information on the discs in the writable areas to prevent pirating as disclosed by Gotoh et al. '736 and Mumford et al. WO 99/45539.

12 Claims 1-10, 12-30, 35-42 and 44-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al. '609, in view of **either of** Fujimori et al. '547, Holster et al. '553, Kobayashi et al. '868 or Saito et al. '454 combined with Ueno et al. '457

It would have been obvious to modify the process of using the optical recording media of Takeda et al. '609 combined with **either of** Fujimori et al. '547, Holster et al. '553, Kobayashi et al. '868 or Saito et al. '454 by using differences in reflectivity rather than depth of focus based upon the disclosure of equivalence by Ueno et al. '457

13 Claims 1-30 and 35-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al. '609, in view of Nishiuchi et al. '619 and Pan et al. '680, further in view of Ueno et al. '457

It would have been obvious to modify the process of using the optical recording media of Takeda et al. '609 combined with Nishiuchi et al. '619 and Pan et al. '680 by using differences in reflectivity rather than depth of focus based upon the disclosure of equivalence by Ueno et al. '457

14 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure




Wilting et al. '497 teach changing the relative placement of the reflective and the partially reflective layers to allow the recording medium to be read either through the top (protective layer) or through the bottom (substrate)

15 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J Angebranndt whose telephone number is 703-308-4397. The examiner can normally be reached on Mondays-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 703-308-2464. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Martin J Angebranndt  
Primary Examiner  
Art Unit 1756

December 4, 2002